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(71) Applicants (for all designated States except US): DOW CORNING CORPORATION [US/US]; 2200 West Salzburg Road, Midland, MI 48686-0994 (US). DOW CORNING TORAY SILICONE CO., LTD. [JP/JP]; 4th Floor, AIG Building, 1-1-3, Marunouchi, Chiyoda-ku, Tokyo 100-0005 (JP).

(72) Inventors; and

(75) Inventors/Applicants (for US only): ROMENESKO, David [US/US]; 4102 Elm Court, Midland, MI 48642 (US). SCHMIDT, Randall [US/US]; 813 Honeysuckle Circle, Midland, MI 48642 (US). TOGASHI, Atsushi [JP/JP]; 3-7-15-303 Nobuto, Cho-ku, Chiba-shi, Chiba Prefecture 260-0032 (JP). WIEBER, Gary [US/US]; 4407 Huron Drive, Midland, MI 48642 (US).

(74) Common Representative: DOW CORNING CORPORATION; TROY, Timothy, Patent Department - Mail CO1232, 2200 West Salzburg Road, Midland, MI 48686-0994 (US).

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- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)
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(54) Title: FLAME RETARDANT COMPOSITIONS

(57) Abstract: This invention relates to a flame retardant composition comprising: (a) 81 to 99.99 weight percent of a thermoplastic resin, thermoset resin, thermoplastic resin blend, or thermoset resin blend which upon burning forms a char and (b) 0.01-19 weight percent of a silsesquioxane resin having a weight average molecular weight of greater than 300 and having the average molecular formula:  $(R_3SiO_{1/2})_a(R_2SiO_{2/2})_b(RSiO_{3/2})_c(SiO_{4/2})_d(RO_{1/2})_e(OH_{1/2})_f$  wherein each R is hydrogen, an alkyl group, an alkenyl group, or an aryl group having from 6 to 12 carbon atoms, a and b are zero or positive numbers and the value of a+b is greater than zero, c is a positive number, d, e and f are zero or positive numbers with the provisos that the copolymer comprises at least 40 mole percent of  $R_3SiO_{3/2}$  units, the copolymer comprises less than 10 mole percent  $SiO_{4/2}$  units, greater than 30 mole percent of the silicon-bonded R groups are silicon-bonded aryl groups, greater than 0.5 mole percent of the silicon-bonded R groups are silicon-bonded hydrogen atoms, the content of silicon-bonded hydroxyl groups is equal to or less than 2 weight percent, and the content of silicon-bonded alkoxy groups where the alkoxy group is methoxy or ethoxy is equal to or less than 5 weight percent.